NISTTech

METAL-INSULATOR-SEMICONDUCTOR (MIS) DEVICE

NIST Docket No. 14-002

Abstract

NIST researchers have invented a metal-insulator semiconductor (MIS) photodiode that operates in an electrolytic environment and is capable of **efficient energy conversion** or **high positional sensitivity for detection** of a discrete light source or chemical species.

Four New Aspects of Our Invention Compared to conventional MIS Photodiodes

1.Processing of insulating layer with rapid thermal annealing (RTA)

2.Discontinuous metal layer allowing insulator to be exposed to the electrolyte

3.Bilayer metal structure (**relevant for energy conversion**)

4.Operation of MIS device in the presence of an electrolyte (**novel for photodetection**)

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References

- Serial No. 14/269,411

Status of Availability

This invention is available for licensing exclusively or non-exclusively in any field of use.

Last Modified: 02/02/2016